(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
19 April 2001 (19.04.2001)

PCT

(10) International Publication Number
WO 01/27714 A2

(51) International Patent Classification[7]: G06F

(21) International Application Number: PCT/KR00/01148

(22) International Filing Date: 14 October 2000 (14.10.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
1999/44726 15 October 1999 (15.10.1999) KR

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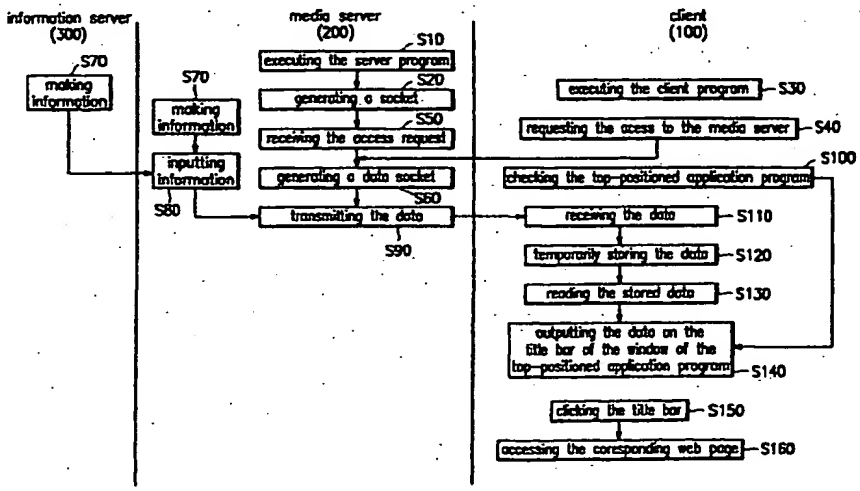
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *Without international search report and to be republished upon receipt of that report.*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: INFORMATION PROVIDING MEDIA, AND INFORMATION PROVIDING SYSTEM AND METHOD USING SAME



(57) Abstract: Disclosed is an information providing medium, and an information providing system and method. When a media server transmits stored information data to a client computer, an information receiving/displaying client program installed in the client computer checks a window of an activated application program from the application programs running on the client computer, and displays information data transmitted by the media server on a title bar of the window of the activated application program. Information data displayed on the title bar are dynamically linked to various application programs such as web sites that contain detailed information or a multimedia player so that a user can read the contents according to the user's selections. According to the present invention, therefore, the client computer user can receive information in real-time without an additional active window while doing a job with no relation to the information being obtained.

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Information Providing Media, and Information Providing System and Method Using Same

BACKGROUND OF THE INVENTION

(a) Field of the Invention

The present invention relates to an information providing system and method. More specifically, the present invention relates to a system and method for providing information on a title bar of a window of an application program used by a personal computer (PC) user.

(b) Description of the Related Art

As the Internet has widely been popularized, information providing services such as advertisement or contents on the Internet have also greatly increased. To provide the above-noted information, (1) information providers publish desired information on web pages, and Internet users access the corresponding web pages via web browsers to read the information, or (2) the information providers display additional activated windows for providing the desired information. Categories of the information provided to the users generally include daily information such as climate, sports, entertainment and news flashes, and specific information such as stocks and jobs. The daily information is delivered to the users directly or by broadcasting as well as on the Internet, but the Internet users must find the information for themselves. It is usual for the users to search and read desired information, but in this case, the users experience inconvenience in finding desired information on the Internet.

That is, in the above-noted method (1), since the user must drive the web browser and access the web server to receive desired information, the user must run the web browser each time he wishes to get information, and even when he chooses to run the web browser he must put a window of the web browser on the utmost top active window while he reads the

corresponding information so he experiences inconvenience in performing other jobs in parallel with the information searching job. When we therefore consider that contemporary jobs are changed to information handling tasks such as electronic mailing, electronic decision and knowledge management, the method (1) cannot guarantee simultaneity between the ordinary jobs and information jobs.

Further, while running the web browser, the user must frequently move from a currently running application program to the window of the web browser so as to obtain desired information.

In the above-noted method (2), while an additional active window even if small in size is displayed on the user's working window, the information providing window covers the window of the current working window of the application program, and since the additional active window has a large amount of pictures in many cases, these pictures become a heavy load to the user's network environments and to resources of the user's PC.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide information on a title bar of an application program used by a user in order for the user to receive desired information while doing jobs other than information obtaining jobs.

In one aspect of the present invention, in an information providing method of an information providing system including a media server for providing various kinds of information and a client computer in which a client program for communication with the media server is installed, an information providing method comprises the steps of: (a) executing the client program and receiving information data from the media server; (b) checking an utmost top-positioned application program executed in the client computer via the client program; and (c) outputting the information data transmitted by the media server on a title bar of the utmost top-positioned application program.

The client program comprises: a message displayer for checking the

utmost top-positioned application program checked by an operating system, searching for a position of the title bar on the utmost top-positioned application program, and outputting the information data transmitted by the media server on the title bar of the utmost top-positioned application program window; and a client socket, generated by the client computer, for setting and maintaining connections with the media server, and receiving data transmitted by the media server.

The step (a) comprises: driving the client socket and generating a first socket; connecting the first socket to a second socket generated in the media server; and receiving the information data provided by the media server via the connected sockets.

The step (a) further comprises a step of the client computer's storing the received information data.

In another aspect of the present invention, in a recording medium that can be read by a computer and is used by an information providing system which comprises a client computer and a media server which accesses the client computer via a network and provides information to the client computer, a recording medium comprises: a client socket, installed in the client computer, generating a socket and setting and maintaining socket connections with the media server, and receiving data transmitted by the media server; and a message displayer, installed in the client computer, checking an utmost top-positioned application program detected by an operating system, searching a position of a title bar of a window of the utmost top-positioned application program, and outputting information data transmitted by the media server on the title bar of the window of the utmost top-positioned application program.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate an embodiment of the invention, and, together with the description, serve to explain the principles

of the invention:

FIG. 1 shows an information providing system according to a preferred embodiment of the present invention;

FIG. 2 shows a block diagram of the information providing system according to the preferred embodiment of the present invention;

FIG. 3 shows a schematic diagram of the information providing system when an information server that provides information according to a preferred embodiment of the present invention is provided;

FIG. 4 shows a flow chart of an information providing method according to a preferred embodiment of the present invention;

FIG. 5 shows a screen shot displaying information data on a title bar of a window application program of a client computer according to the preferred embodiment of the present invention;

FIG. 6 shows a screen shot of a linking process to a web page when a user clicks the title bar of the application program to get detailed contents while information of the preferred embodiment of the present invention is provided; and

FIG. 7 shows a screen shot wherein a corresponding application program is driven and the contents of a file are confirmed when the user clicks the title bar of the application program to confirm the contents of multimedia and other various files while information of the preferred embodiment of the present invention is provided.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the following detailed description, only the preferred embodiment of the invention has been shown and described, simply by way of illustration of the best mode contemplated by the inventor(s) of carrying out the invention. As will be realized, the invention is capable of modification in various obvious respects, all without departing from the invention. Accordingly, the drawings and description are to be regarded as illustrative in nature, and not restrictive.

FIG. 1 shows an information providing system according to a preferred embodiment of the present invention.

As shown, the information providing system comprises client computers 100 and a media server 200. A user of the client computer 100 accesses the media server 200 via the client computer 100. The client computer 100 is connected to the media server 200 via a network such as the Internet or the public switched telephone network (PSTN).

FIG. 2 shows a block diagram of the information providing system according to the preferred embodiment of the present invention.

As shown, a network interface card (NIC) or a modem 110 is a network interface layer that modulates/demodulates transmitted and received data and transmits and receives the data via the network.

A client socket 131, a program for setting and maintaining connections with the media server 200, receives data transmitted by the media server 200. A message displayer 132 receives messages from the media server 200 and outputs the messages on the title bar of the application program used by the user of the client computer 100. A channel browser 133 helps the user to select a specific information server when they are provided with a plurality of information servers.

A client program 130 that a manager of the media server 200 provides to the clients according to a request by the client comprises the client socket 131, the message displayer 132 and the channel browser 133. The above-noted client program 130 is a client program for receiving and displaying information.

The manager of the media server 200 uploads the client program 130 on the web site, and the user downloads the client program 130 to install in the client computer 100. The client program 130 occupies a predetermined portion of a memory in the client computer 100, and is registered to the start program of the Windows operating system so that the client program 130 is automatically run each time the client computer 100 is booted.

The message displayer 132 uses a Windows operating system (OS)

120 that is the OS of the client computer 100. That is, the Windows OS 120 checks which application programs are running on the Windows OS and which is the utmost top-positioned application program run by the user. The message displayer 132 also checks the utmost top-positioned application program checked by the Windows OS 120, searches for a position of the title bar on the utmost top-positioned application program, and outputs the information data transmitted by the media server 200 on the title bar of the utmost top-positioned application program window.

A Windows application program 140 represents application programs running on the Windows OS. That is, the Windows application program 140 has windows in which running programs are displayed, and has title bars. For example, the Windows application program 140 can be word processing programs, representation programs etc. running on the Windows family or Linux.

A network interface card (NIC) 210 of the media server 200 modulates and demodulates the data transmitted/received by the media server 200 and transmits and receives the data.

A server socket 230 receives access requests from the client computer 100, and then sets and maintains the access to the client computer 100.

A coder/message receiver 240 is a text editor for making messages to be provided to the media server 200 in a format to be transmitted to the client computer 100, and the coder/message receiver 240 also brings the information data held by the information server.

A connection managing program 250 manages the connections with the client computer 100 such as connection states and time with the client computer 100.

A Windows NT/UNIX 220 is an OS of the media server 200.

Client programs installed in the client computer 100 can be either provided by the media server via the PSTN or the Internet, or provided by using recording media such as compact discs (CD) or diskettes.

FIG. 3 shows a schematic diagram of the information providing system when an additional information server that provides information according to a preferred embodiment of the present invention is provided. The system as shown in FIG. 3 can be preferably used when either the information provided by the media server 200 does not satisfy the user of the client computer 100 or the media server 200 cannot generate information. If the media server 200 provides various kinds of information, it is obvious that the media server 200 comprises a following information server 300.

As shown in FIG. 3, the information server 300 provides information to the media server 200, and the media server 200 provides the information to the client computer 100.

The information servers 300, 400 and 500 that are a plurality of database servers, respectively provide information to the media server 200.

A channel browser 600 is a program for selecting a specific information server when there are provided the information servers 300, 400 and 500. The client program comprises the channel browser 600.

A channel gateway 700 stores channel information of the information servers 300, 400 and 500 that are providers of the information provided to the title bar of the client computer 100, and by using this channel information, selectively provides information provided by the user's desired information server from the information servers 300, 400 and 500.

For example, when the client selects information provided by the second information server 400, the channel gateway 700 makes the media server 200 connect the second information server and the client since the channel gateway 700 already has channel information of the second information server 400. In the same manner, when the client wishes to read information provided by the n-th information server 500, the channel gateway 700 makes the media server 200 connect the n-th information server 500 and the client 100 by using already-known channel information of the n-th information server 500 so that the client 100 can receive information from the n-th information server 500.

For instance, when the client selects an information server that provides information on sports and entertainment, since the channel gateway 700 already has the channel information of the corresponding information server, the channel gateway 700 provides the client with the information provided by the information server that provides the information on sports and entertainment.

Referring to FIG. 4, an information providing method according to the preferred embodiment of the present invention will now be described.

FIG. 4 shows a flow chart of an information providing method according to a preferred embodiment of the present invention.

As shown, the media server 200 executes a server program in step S10. The server program performs socket generation and connection management that the media server performs to provide information. The media server 200 generates the socket so as to communicate with the client computers 100 in which the client program is installed in step S20.

When the client boots the client computer 100, the client computer 100 or the user executes the client program in step S30.

The client socket 131 generates a socket, and the client socket 131 requests access to the media server 200 so as to receive information from the media server 200 in step S40.

At this time, the request of the access from the client socket 131 to the media server 200 does not go through the web browser, but is performed by the client socket 131.

The media server 200 receives the access request generated by the client computer 100 in step S50, and either generates a data socket for communicating with the client or selects one of the generated sockets in step S60.

Hence, the socket generated in the client computer 100 is connected with the socket generated in the media server, and the information data provided by the media server 200 is transmitted to the client computer 100 in step S90.

Here, the manager of the media server directly records the information data provided to the client computer by the media server 200 in the media server 200 by using the coder, or the information server provides the information data.

That is, the information server 300 provides information to the media server 200. At this time, the information includes all kinds of contents such as advertisements, news, climate, stocks, shopping and goods prices. The information server 300 makes information in step S70 and transmits the information to the media server 200, or the media server 200 directly accesses the information server to get information, and the media server 200 inputs the provided information in the server in step S80.

At this time, the coder/message receiver 240 of FIG. 2 performs the above-noted inputting process.

Here, the message displayer 132 of the client computer 100 is running when the client program is driven, and the message displayer 132 checks the windows of the utmost top-positioned application programs running on the Windows OS in step S100.

At this time, the window checking is performed using a pointer identification method.

The client socket 131 receives the data transmitted by the media server 200 in step S110, and temporarily stores the data in step S120.

The message displayer 132 reads the stored data and outputs information data on the title bar of the window of the presently checked utmost top-positioned application program in steps S130 and S140.

Here, determination of the utmost top-positioned application program executed by the message displayer 132 depends on signals generated by the Windows OS 120.

Generally, when the client selects one of the windows of the application programs by using a mouse or a keyboard, the Windows OS 120 generates a signal so as to activate the selected application program. At this time, the client program always detects the corresponding signal and brings

the signal, and therefore, even when the user abruptly changes the windows of the application programs, the user can promptly check the changed window of the utmost top-positioned application program.

The message displayer 132 reads the signal generated by the Windows OS 120 and determines which one is the utmost top-positioned application program, that is, the presently activated application program, and then displays the received information data on the title bar of the determined utmost top-positioned application program.

At this time, the data received by the client 100 can be output on the title bar of the utmost top-positioned application program without being stored.

Therefore, the window of the utmost top-positioned application program displays the information data on the title bar as shown in FIG. 5.

FIG. 5 shows a screen shot displaying information data on the title bar of the window application program of the client computer according to the preferred embodiment of the present invention.

As shown, information is displayed on the title bar of the Windows application program, and especially, the information can be displayed on both top title bar (A) and bottom title bar (B) or either of the title bars (A) or (B). The information includes weather, news and stocks, as needed by the client computer user. The information displayed on the title bar can be moved from the left to the right, or it can be flashed.

The preferred embodiment of the present invention automatically repeats the above-noted processes so as to continuously receive information as long as the user of the client computer does not cancel the connection to the media server 200.

The information data displayed on the top title bar (A) of the utmost top-positioned application program functions as linking information for the client to receive information and to check detailed information.

That is, if the client user clicks the top title bar (A) in step S150 as shown in FIG. 4 while the information data are displayed on the top title bar

(A) as shown in FIG. 5, a web page having the information displayed on the title bar (A) as shown in FIG. 6 is displayed in step S160.

FIG. 6 shows a screen shot of opening a web page including detailed contents of information data when a user clicks the title bar of the application program. As shown, when the user of the client computer 100 clicks the message output portion on the title bar in step S150, the client computer 100 detects a click event at that point and drives the web browser to access the web page relating to the time when the user clicked the title bar in step S160. At this time, the related web page can be the web page of the manager of the media server when the information output on the title bar is provided by the manager of the media server, and the related web page can be the web page of the manager of the information providing server when the information is provided by the information providing server. The manager of the media server can be the manager of the information server.

FIG. 7 shows a screen shot of opening a file having the information data as a headline or a subject displayed when the user clicks the title bar of the application program that provides information according to the preferred embodiment of the present invention. The file of FIG. 7 represents moving pictures.

As shown in FIG. 7, when the user of the client computer clicks the message output portion of the title bar of FIG. 7 in step S150, the client computer detects the click event at the corresponding point and drives a moving picture driving program to remotely play the corresponding file positioned at a predetermined position of the corresponding server by using information indicating storing positions of the file such as an Internet protocol (IP) address of a moving picture server that stores the corresponding file, and storing positions of the file such as a directory in which the file is stored or a database table from the information linked with the information data at the time when the user clicks the title bar of FIG. 7 in step S160.

The information displayed on the title bar can be moved from the left to the right, or it can be flashed.

In detail, an operation after the user clicks the top title bar (A) of the utmost top-positioned application program according to the preferred embodiment of the present invention will now be described.

The user of the client computer clicks the top title bar (A) displaying information in step S150.

The Windows OS 120 reads the click event at the title bar (A) and drives the web browser installed in the client computer 100 according to the click event. At this time, the Windows OS 120 provides information on a uniform resource locator (URL) included in the corresponding information data to the web browser when the user clicks the title bar so that the web browser accesses the web site corresponding to the URL information and reads the web pages including the information data.

Here, the URL information is either of the web server managed by the manager of the media server 200 or of the web server managed by the manager of the information server 300, and the URL information indicates the position of the web page that has the information displayed on the title bar.

A method for transmitting multimedia data or text excluding the web data will now be described.

The user of the client computer clicks the top title bar (A) of the application program displaying information in step S150.

The Windows OS 102 detects the click event on the title bar (A), detects that the data at the time of clicking refers to a specific moving picture file as a detailed information, and drives the moving picture driving application program installed in the client computer 100 according to the clicking of the title bar.

At this time, the Windows OS 120 uses the address of a moving picture server and information on the position of the corresponding moving picture file included in the corresponding information data and opens the corresponding moving picture when the user clicks the title bar. Various application program files can be opened including the moving picture files in

the same manner, and when no application program is provided for driving the corresponding file, the files can be transmitted to the user by using application program services.

The method for displaying web pages of a predetermined web server as the user clicks the title bar is identical with the method for accessing the web page that is set at the time of accessing the Internet when the user clicks icons of the Internet Explorer or the Netscape Navigator.

The method for opening multimedia files or text files as the user clicks the title bar is identical with the method for accessing a specific multimedia server or a text server connected to the user on the network to open the specific file.

The web pages that are displayed as the user clicks the title bar have detailed contents of the information data displayed on the title bar.

The multimedia contents or the text contents that are displayed as the user clicks the title bar are the files that have the information data displayed on the title bar as a title.

Therefore, when the user of the client computer clicks the title bar, he accesses the web site that provides the corresponding information or opens various files that have the information contents, and confirms detailed contents of the received information.

In the preferred embodiment of the present invention with reference to FIGs. 3 to 6, the media server 200 receives information from other servers and provides information to the client when the media server 200 cannot generate information to provide the same to the client. The other servers include a database server or a web server.

If the media server 200 generates information to provide the same to the client, the present invention does not need the information server 300.

According to the present invention, the client computer user can receive information in real-time without an additional active window while doing a job with no relation to the information being obtained.

While this invention has been described in connection with what is

Figure 3: Thumbnails of Slides Ordered According to New Layout Preference (Slide View)

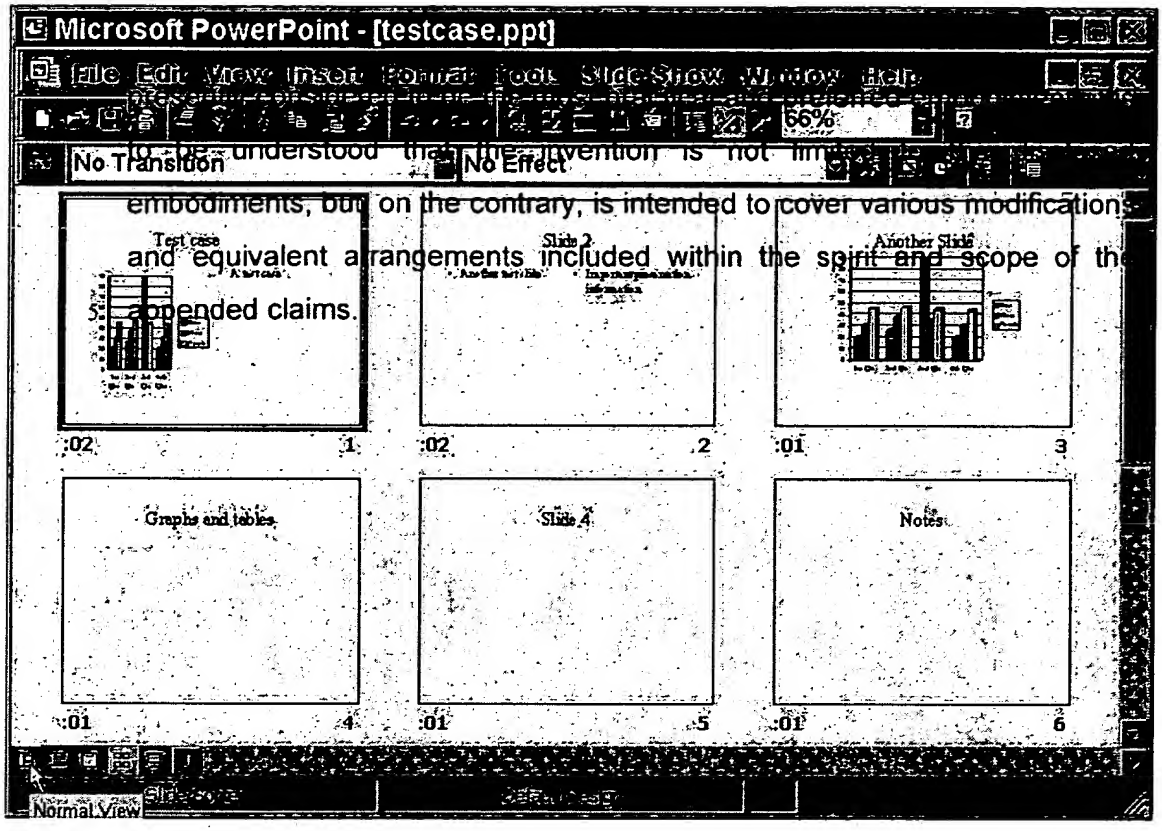
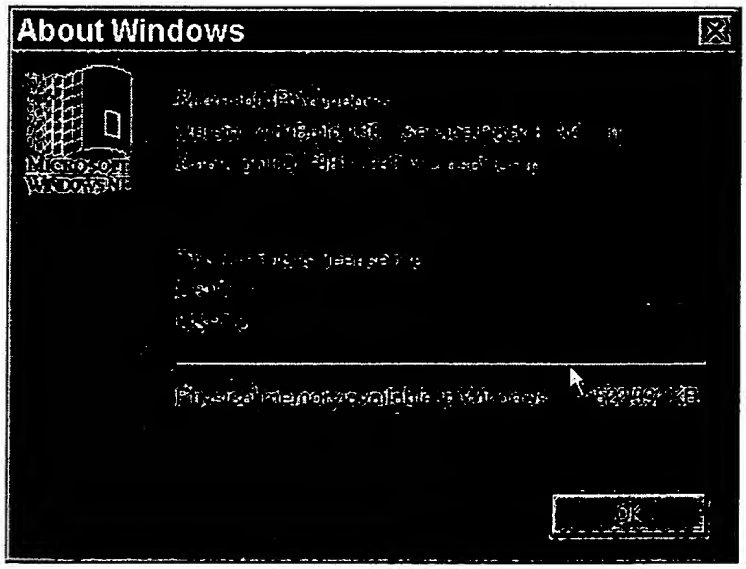


Figure 4: Microsoft Explorer Copyright Info



WHAT IS CLAIMED IS:

1. In an information providing method of an information providing system including a media server for providing various kinds of information and a client computer in which a client program for communication with the media server is installed, an information providing method comprising the steps of:

(a) executing the client program and receiving information data from the media server;

(b) checking an utmost top-positioned application program executed in the client computer via the client program; and

(c) outputting the information data transmitted by the media server on a title bar of the utmost top-positioned application program.

2. The method of claim 1, wherein the client program comprises:

a message displayer for checking the utmost top-positioned application program checked by an operating system, searching for a position of the title bar on the utmost top-positioned application program, and outputting the information data transmitted by the media server on the title bar of the utmost top-positioned application program window; and

a client socket, generated by the client computer, for setting and maintaining connections with the media server, and receiving data transmitted by the media server.

3. The method of claim 2, wherein the step (a) comprises:

driving the client socket and generating a first socket;

connecting the first socket to a second socket generated in the media server; and

receiving the information data provided by the media server via the connected sockets.

4. The method of claim 3, wherein the step (a) further comprises a step of the client's computer storing the received information data.

5. The method of claim 2, wherein in the step (b), the message displayer detects signals generated by the operating system and checks the

utmost top-positioned application program running in the client computer.

6. The method of claim 1, wherein the information data displayed on the title bar is abbreviated information of the corresponding information.

7. The method of claim 2, wherein the method further comprises a step (d) of connecting the client computer and the media server by the web browser when a client computer user clicks the title bar on a window of the utmost top-positioned application program so that the user can check detailed information of the displayed information data.

8. The method of claim 7, wherein the step (d) comprises steps of:

providing information on a uniform resource locator (URL) relating to the displayed information data displayed by the message displayer to the web browser when the client computer user clicks the title bar on a window of the utmost top-positioned application program; and

driving the web browser and reading web pages of the URL.

9. The method of claim 7, wherein the step (d) comprises a step of opening information of a file relating to the information data displayed by the message displayer by executing a corresponding application program when the client computer user clicks the title bar on the window of the utmost top-positioned application program.

10. The method of claim 2, wherein the method further comprises an information providing server for providing information to the media server, and comprises steps of:

the information providing server providing information on a uniform resource locator (URL) relating to the displayed information data displayed by the message displayer to the web browser when the client computer user clicks the title bar on a window of the utmost top-positioned application program;

driving the web browser and reading web pages of the URL; and

the operating system opening a corresponding file of information of remote position of the file relating to the information data displayed by the message displayer by executing the application program of the

corresponding file when the client computer user clicks the title bar on a window of the utmost top-positioned application program.

11. The method of claim 1, wherein the title bar on which the information data are displayed is either a top title bar of the utmost top-positioned application program or a bottom title bar of the utmost top-positioned application program.

12. In a recording medium that can be read by a computer and is used in an information providing system which comprises a client computer and a media server which accesses the client computer via a network and provides information to the client computer, a recording medium comprising:

a client socket, installed in the client computer, generating a socket and setting and maintaining socket connections with the media server, and receiving data transmitted by the media server; and

a message displayer, installed in the client computer, checking an utmost top-positioned application program detected by an operating system, searching a position of a title bar of a window of the utmost top-positioned application program, and outputting information data transmitted by the media server on the title bar of the window of the utmost top-positioned application program.

13. The recording medium of claim 12, wherein the message displayer transmits information on the position of web pages having the displayed information data as contents to a web browser so that the web browser displays the web pages of the media server to the client computer when a user of the client computer clicks the title bar of the utmost top-positioned application program on which the information data are displayed.

14. The recording medium of claim 12, wherein the message displayer opens the corresponding file by driving the application program that runs the corresponding file via information on a remote position of the corresponding file having the information data as a headline or a subject when the user of the client computer clicks the title bar of the utmost top-positioned application program on which the information data are displayed.

15. In an information providing method using a media server that accesses a client computer and provides various kinds of information, an information providing method comprising the steps of:

(a) providing a client program to the client computer according to a request generated by the client computer;

(b) connecting to the client computer via a socket and providing information data when the client program is installed and executed;

(c) connecting to the client computer according to a request by a web browser when a user of the client computer clicks a title bar while the information data are output to the title bar of a window of an utmost top-positioned application program executed by the client program on an operating system; and

(d) providing the client computer with web pages that have the information data provided on the title bar as contents or files that have the information data provided on the title bar as a headline or a subject.

16. The method of claim15, wherein the client program comprises:

a message displayer for checking the utmost top-positioned application program checked by an operating system, searching for a position of the title bar on the utmost top-positioned application program, and outputting the information data transmitted by the media server on the title bar of the utmost top-positioned application program window; and

a client socket, generated by the client computer, for setting and maintaining connections with the media server, and receiving data transmitted by the media server.

17. The method of claim 15, wherein the step (b) comprises steps of:

connecting, as the client computer drives a client socket program for accessing the media server and maintaining connections and generating a first socket, the first socket with a second socket generated in the media server; and

transmitting information data to the client computer via the connected sockets.

18. The method of claim 16, wherein the message displayer detects signals generated by the operating system and checks the utmost top-positioned application program running on the client computer.

19. The method of claim 15, wherein the step (c) comprises steps of:

receiving a request for accessing a predetermined web page from the web browser when the user of the client computer clicks the title bar of the utmost top-positioned application program on which the information data are displayed; and

providing information on the predetermined web page to the web browser, the web page having the information displayed on the title bar of the window of the utmost top-positioned application program as contents.

20. An information providing system comprising:

a client computer controlled by a client and being accessible to a network; and

a media server for accessing the client computer and providing a client program according to a request generated by the client computer, the client program connecting to the media server via a socket when the client program is installed in the client computer and then executed, receiving information data from the media server, and outputting the information data to a title bar of a window of an executed utmost top-positioned application program, and the media server connecting to the client computer via the socket according to a request for a socket connection generated by the client program, and providing information data to the client computer.

21. The system of claim 20, wherein the client program comprises:

a message displayer for checking the utmost top-positioned application program checked by an operating system, searching for a position of the title bar on the utmost top-positioned application program, and outputting the information data transmitted by the media server on the title bar of the utmost top-positioned application program window; and

a client socket, generated by the client computer, for setting and maintaining connections with the media server, and receiving data

transmitted by the media server.

22. The system of claim 20, wherein the system further comprises an information providing server for providing information to the media server.

23. The system of claim 21, wherein the message displayer, when a click event on the title bar occurs, transmits the web page having the information displayed on the title bar as the contents or information on a position of the file to the web browser so that the web browser and the corresponding application program display the web page that has the information as the contents or detailed contents of the corresponding file on the client computer.

FIG 1

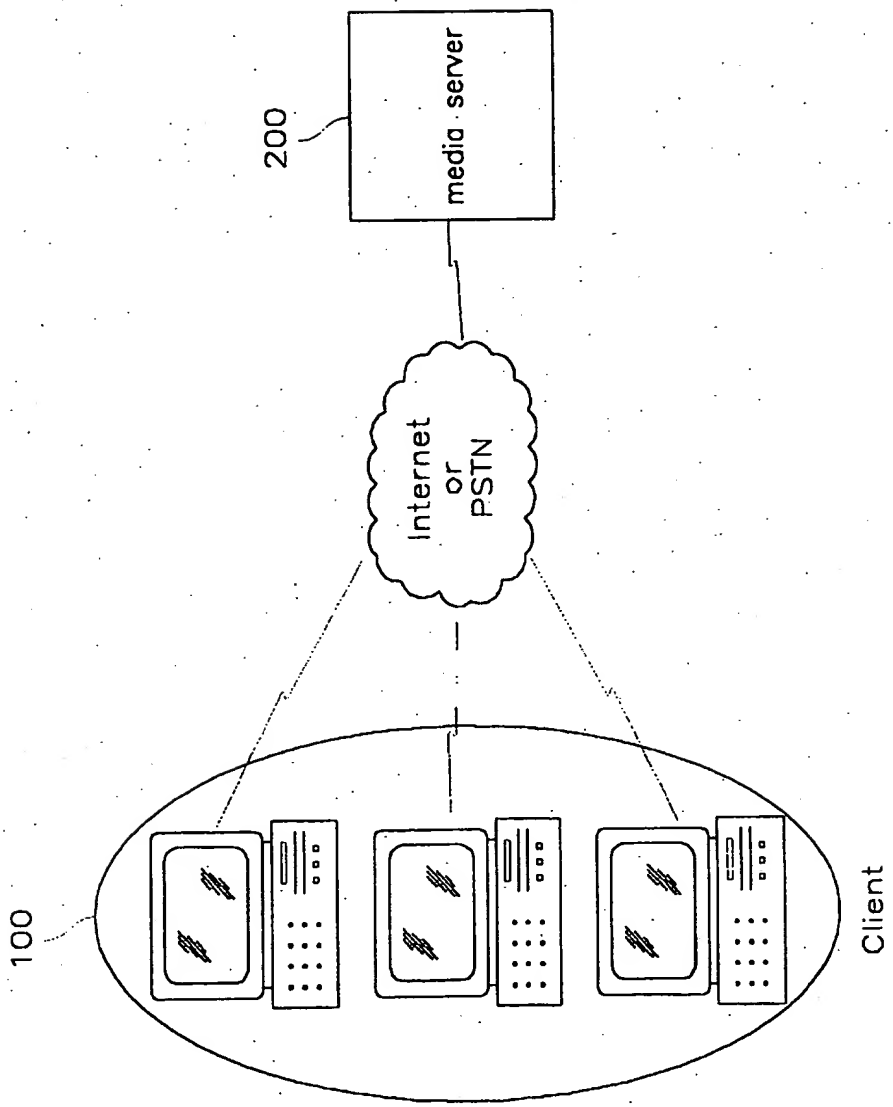


FIG 2

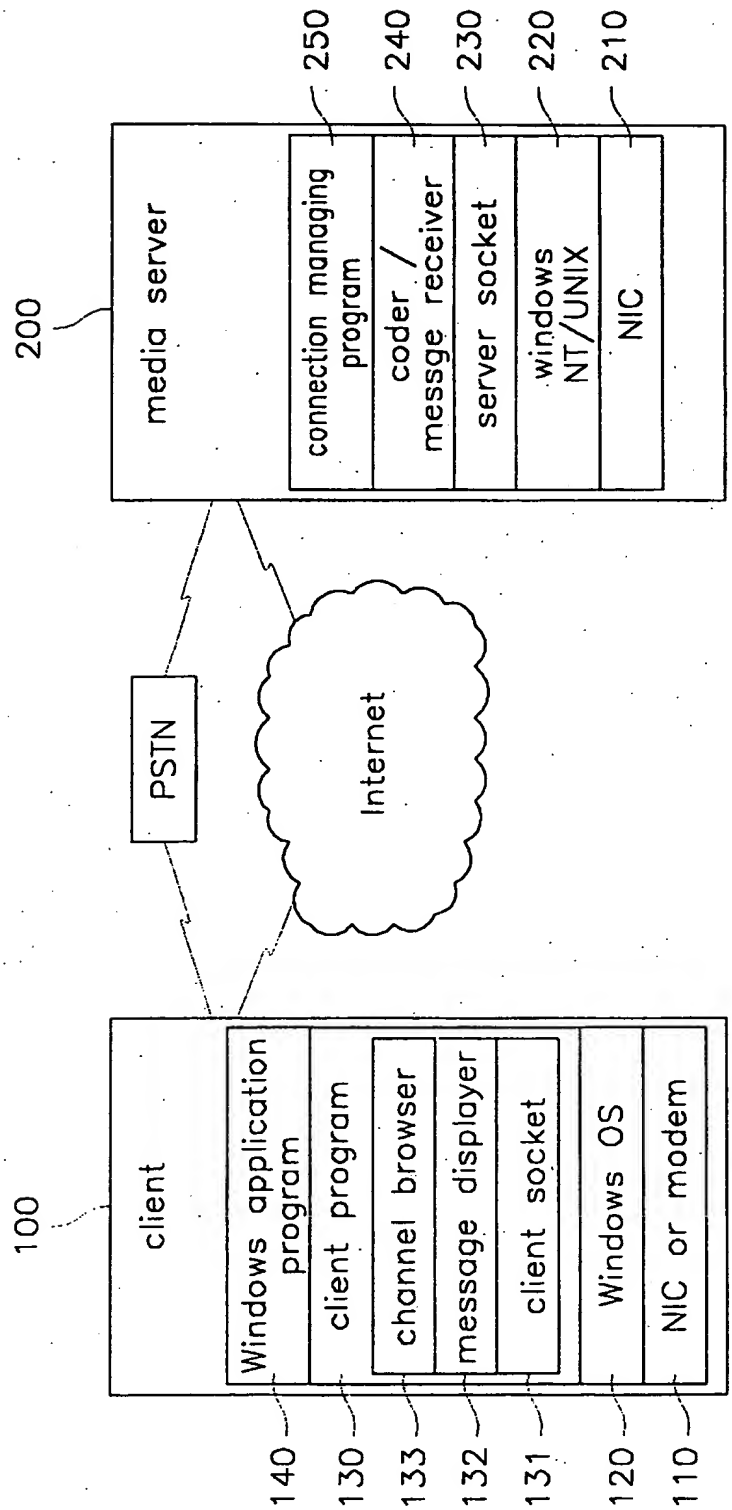

media server
200
connection managing program
coder / messge receiver
server socket
windows NT/UNIX
NIC
250
240
230
220
210
PSTN
Internet
client
100
Windows application program
client program
channel browser
message displayer
client socket
Windows OS
NIC or modem
140
130
133
132
131
120
110

FIG 3

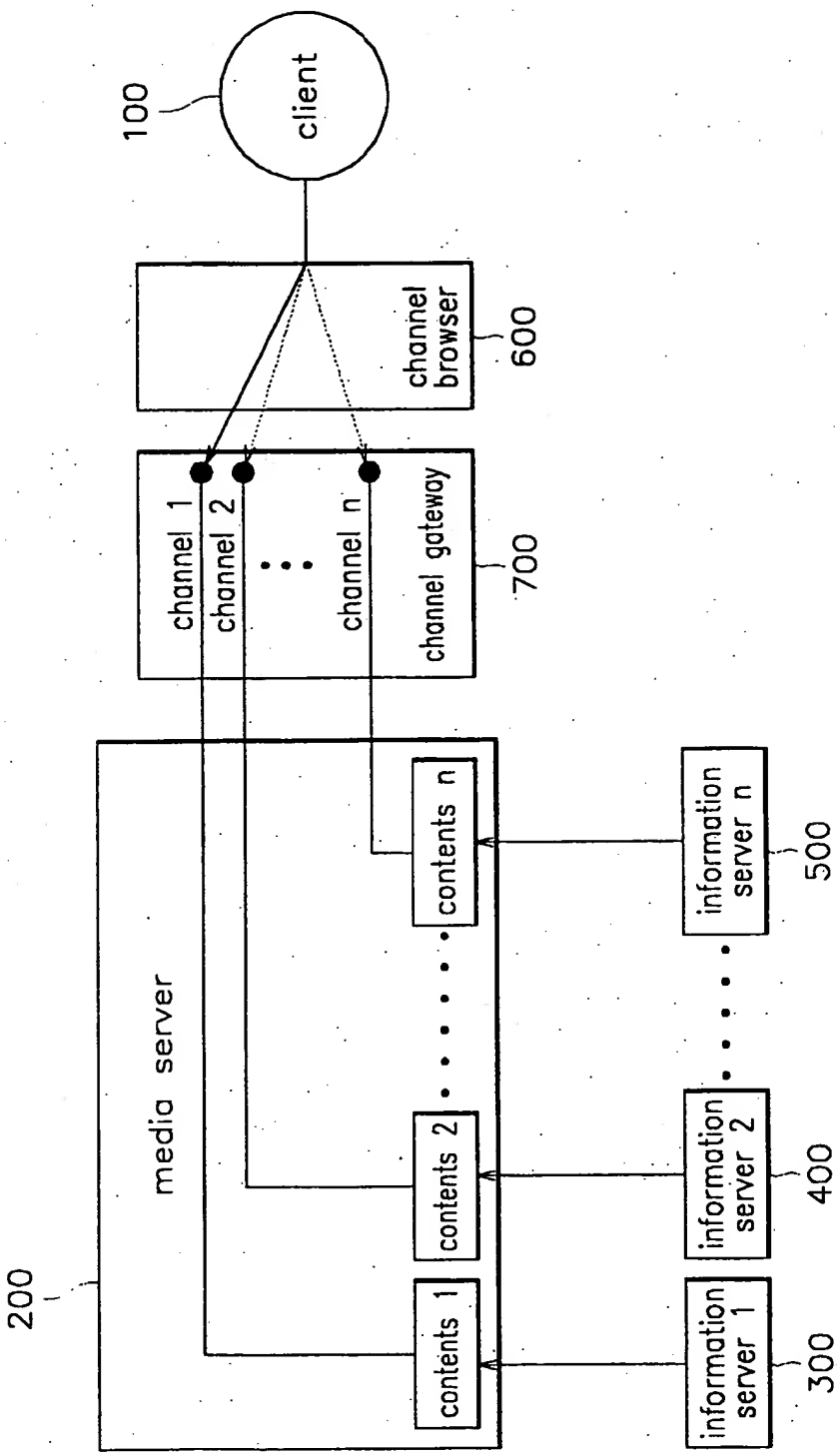

client
100
channel browser
600
channel 1
channel 2
channel n
channel gateway
700
media server
200
contents 1
contents 2
contents n
information server 1
information server 2
information server n
300
400
500

FIG 4

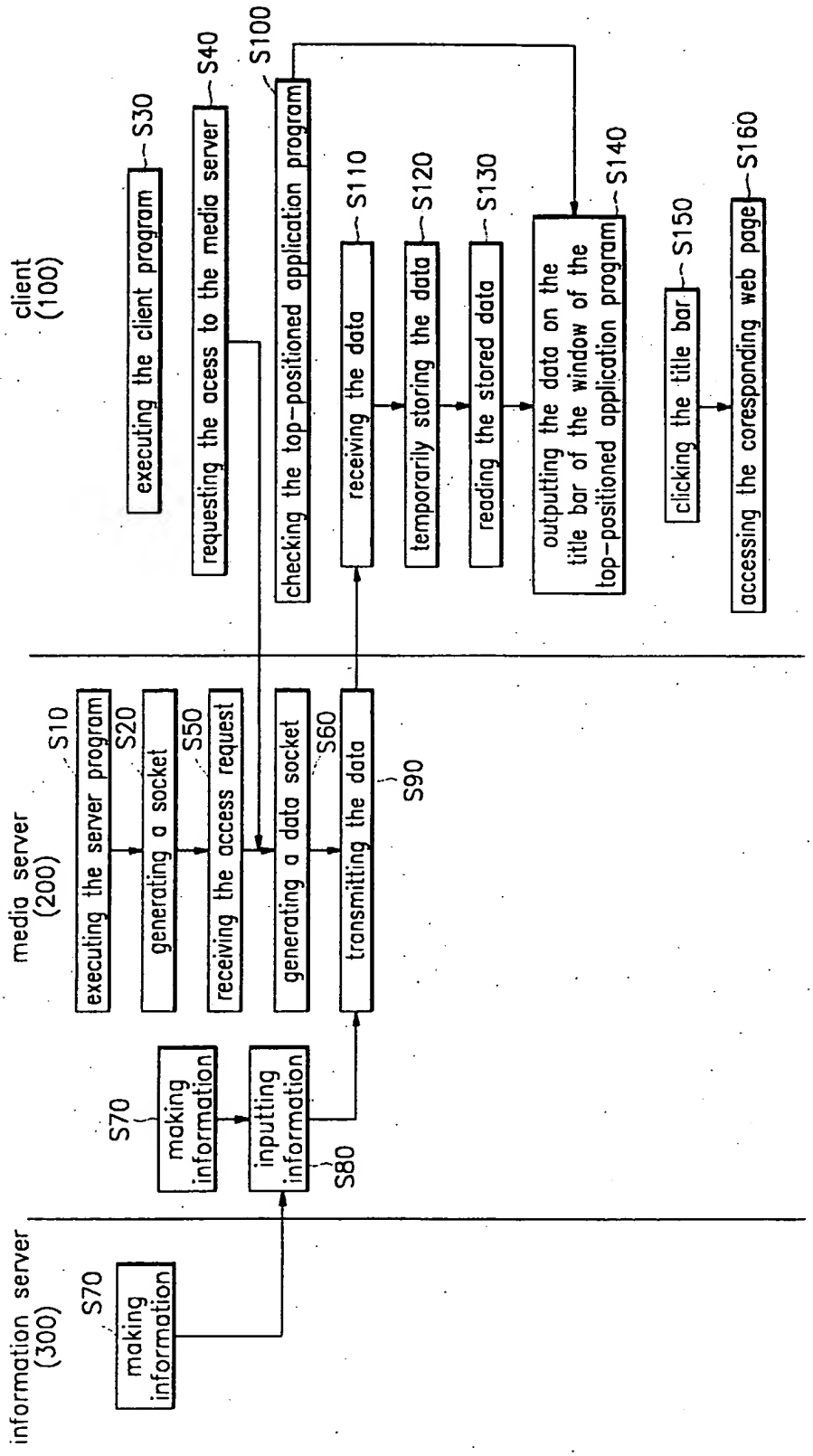

client (100)
executing the client program
S30
requesting the acess to the media server
S40
checking the top-positioned application program
S100
receiving the data
S110
temporarily storing the data
S120
reading the stored data
S130
outputting the data on the title bar of the window of the top-positioned application program
S140
clicking the title bar
S150
accessing the coresponding web page
S160
media server (200)
executing the server program
S10
generating a socket
S20
receiving the access request
S50
generating a data socket
S60
transmitting the data
S90
S70
making information
inputting information
S80
information server (300)
S70
making information

FIG 5

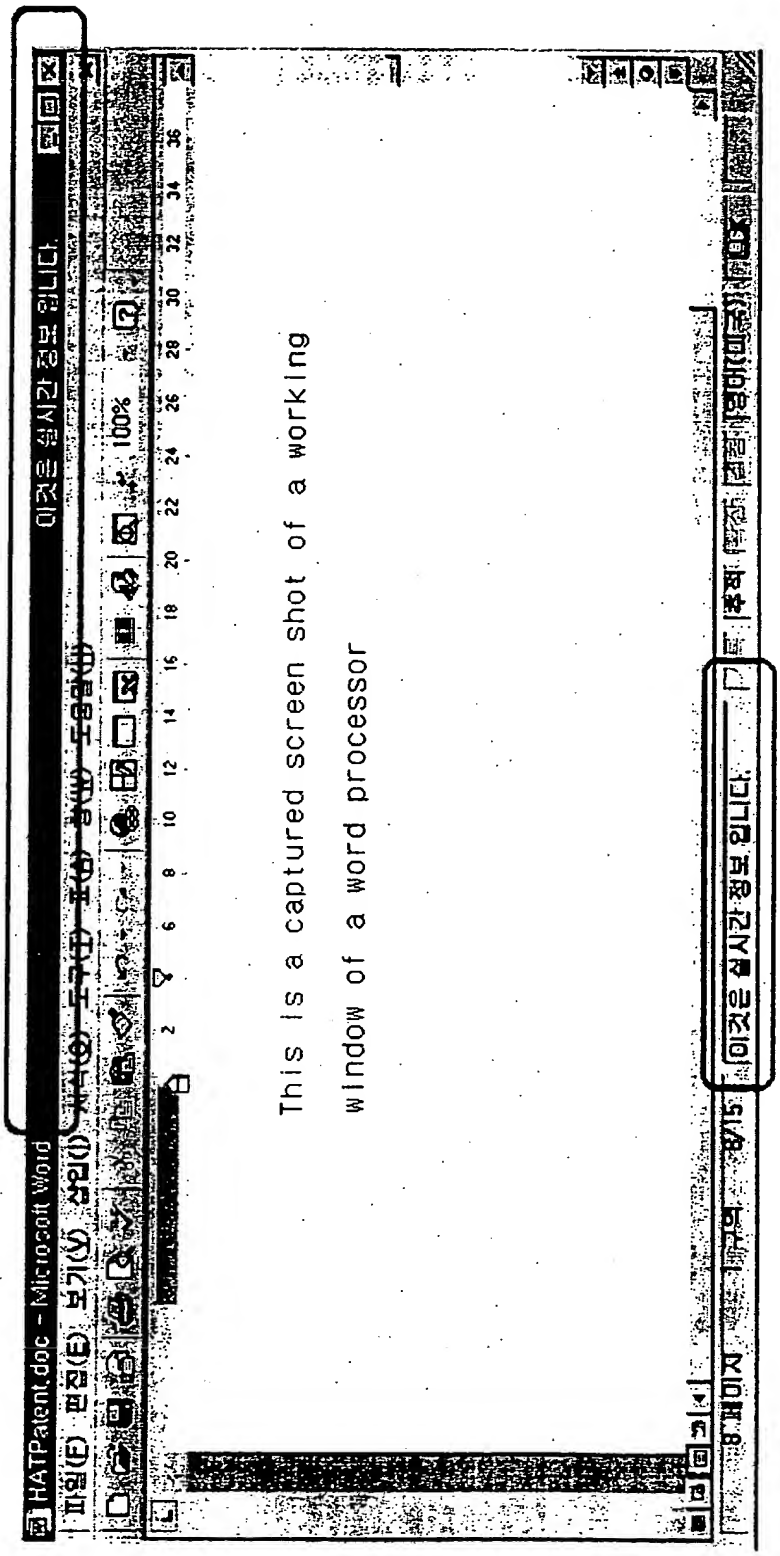

top title bar (A)
This is a captured screen shot of a working
window of a word processor
bottom title bar (or, status bar) (B)

FIG 6

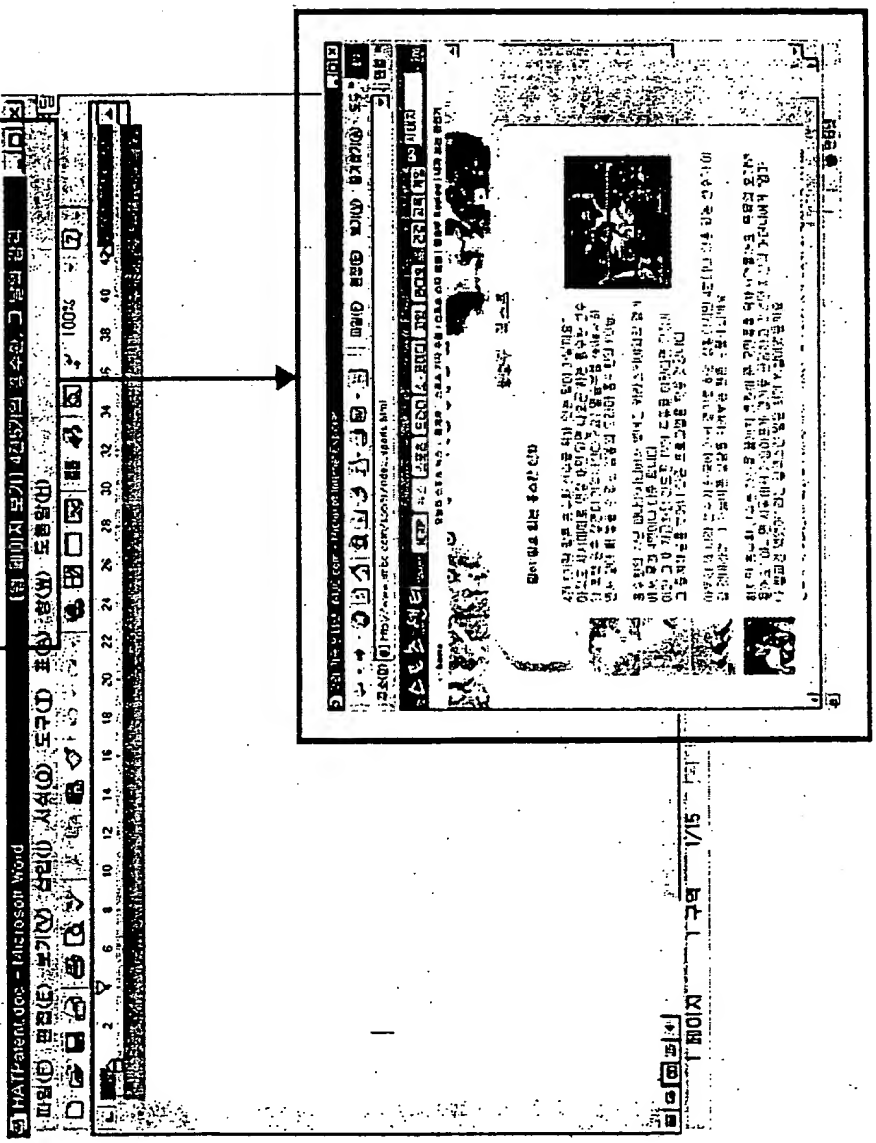


FIG 7